STORMWATER MANAGEMENT ORDINANCE
REVISED

ORDINANCE NO. 1 OF 2015

COUNTY OF FOREST

COMMONWEALTH OF PENNSYLVANIA

Adopted this _16__ day of _July, 2015.

ARTICLE I -GENERAL PROVISIONS

Section 101. Short Title

This Ordinance shall be known and may be cited as the "Forest County Stormwater Management Ordinance."

Section 102. Statement of Findings

The governing body of the County finds that:

A. Inadequate management of accelerated runoff of Stormwater resulting from development throughout a watershed increases flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control Stormwater, undermines flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases non-point source pollution of water resources.

B. A comprehensive program of Stormwater management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety and welfare and the protection of people of the Commonwealth, their resources and the environment.

Section 103. Purpose

This Ordinance is intended for sites less than one acre. Any site larger than one acre will fall under DEP's regulations for NPDES permits. An approved NPDES permit with Post Construction Stormwater Management Plan may be filed with the County for Stormwater Management approval under this Ordinance.

The purpose of this Ordinance is to promote health, safety, and welfare within the County and its watersheds by minimizing the harms and maximizing the benefits described in Section 102 of this Ordinance, through provisions designed to:

A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 93 to protect, maintain, reclaim and restore the existing and designated uses.

B. Preserve the natural drainage systems as much as possible.

C. Manage Stormwater runoff close to the source.

D. Provide the minimum procedures and performance standards for Stormwater planning and management.

E. Maintain groundwater recharge, to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

F. Prevent scour and erosion of stream banks and streambeds.

G. Provide proper operations and maintenance of all permanent Stormwater Management Best Management Practices (BMPs) implemented within the County. (H was deleted)

Section 104. Statutory Authority

A. Primary Authority:

Forest County and the municipalities therein are empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. Section 680.1, et seq., as amended, the "Stormwater Management Act" and the appropriate County and municipal codes.

B. Secondary Authority:

The County is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

Section 105. Applicability

All Regulated Activities and all activities that may affect Stormwater runoff within the County, including land development or earth disturbance, are subject to regulation by this Ordinance. Except where this Ordinance is superseded by a Stormwater Management Ordinance adopted by a municipality.

Section 106. Repealer

Any other ordinance provision(s) or regulation of the County inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

Section 107. Severability

In the event that a court of competent jurisdiction declares any section or provision of this Ordinance invalid, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.

Section 108. Compatibility with Other Ordinance Requirements

Approvals issued and actions taken under this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation or ordinance.

ARTICLE II –DEFINITIONS

For the purposes of this Ordinance, certain terms and words used herein shall be interpreted as follows:

A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

D. The words “used or occupied” include the words “intended, designed, maintained, or arranged to be used or occupied.”

Accelerated Erosion - The removal of the surface of the land through the combined action of man's activity and the natural processes at a rate greater than would occur because of the natural process alone.

Administrator – The Administrator of this Ordinance appointed by the Planning Commission.

Agricultural Activity - The work of producing crops including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an Agricultural Activity.

Alteration - As applied to land, a change in topography because of the moving of soil and rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious; land disturbance.

Applicant - A landowner, developer or other person who has filed an application for approval to engage in any Regulated Earth Disturbance Activity at a project site within the County in an area subject to the regulations of this Ordinance, together the successors and assigns and grantees of each.

Bank full – The channel at the top-of-bank or point where water begins to overflow onto a floodplain.

Base Flow – Portion of stream discharge derived from groundwater; the sustained discharge that does not result from direct runoff or from water diversions, reservoir releases, piped discharges, or other human activities.

Bioretention – A Stormwater retention area that utilizes woody and herbaceous plants and soils to remove pollutants before infiltration occurs.

BMP (Best Management Practice) - Activities, facilities, designs, measures or procedures used to manage Stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance. BMPs include but are not limited to infiltration, filter strips, low impact design, bio-retention, wet ponds, permeable paving, grassed swales, forested buffers, sand filters and detention basins. Structural SWM BMPs are permanent appurtenances to the project site.

Carbonate Bedrock (Areas) - Rock consisting chiefly of carbonate minerals, such as limestone and dolomite; specifically a sedimentary rock composed of more than 50% by weight of carbonate minerals that underlies soil or other unconsolidated, superficial material.

Channel - A drainage element in which Stormwater flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainage ways, swales, streams, ditches, canals, and pipes flowing partly full.

Channel Erosion - The widening, deepening, and headward cutting of small channels and waterways, caused by Stormwater runoff or bank full flows.

Cistern - An underground reservoir or tank for storing rainwater.

Conservation District - A conservation district, as defined in section 3(c) of the Conservation District Law (3 P. S. § 851(c)), which has the authority under a delegation agreement executed with the Department to administer and enforce all or a portion of the erosion and sediment control program in this Commonwealth.

County – The County of Forest, Commonwealth of Pennsylvania.

County Engineer – A professional licensed engineer appointed by the Planning Commission as a consultant to the Planning Commission.

Culvert - A structure with appurtenant works, which carries water under or through an embankment or fill.

Dam - An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semi fluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semi fluid.

Delineation - The process of determining a wetland's physical boundaries**.**

Design Storm - The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g. a 5-year storm) and duration (e.g. 24-hours), used in the design and evaluation of Stormwater management systems. (See Return Period)

Detention - the volume of runoff that is captured and released into the Waters of this Commonwealth at a controlled rate.

Detention Basin - An impoundment designed to collect and attenuate Stormwater peak runoff by temporarily storing the runoff and releasing it at a predetermined rate. Detention basins are designed to drain completely shortly after any given rainfall event and are dry until the next rainfall event.

PA DEP - The Pennsylvania Department of Environmental Protection.

Development - See "Earth Disturbance Activity." The term includes redevelopment.

Discharge – To release water from a project, site, aquifer, drainage basin or other point of interest (verb); The rate and volume of flow of water such as in a stream, generally expressed in cubic feet per second (volume per unit of time) (noun). See also Peak Discharge.

Discharge Point – The point to which Stormwater flows.

Disconnected Impervious Area (DIA) - An impervious or impermeable surface that is disconnected from any stormwater drainage or conveyance system and is redirected or directed to a pervious area, which allows for infiltration, filtration, and increased time of concentration as specified in *Appendix F, Disconnected Impervious Area.*

Disturbed Area – An un-stabilized land area where an earth disturbance activity is occurring or has occurred.

Ditch – (See Channel).

Down Slope Property Line - That portion of the property line of the lot, tract, or parcels of land being developed located such that overland or pipe flow from the site would flow towards it.

Drainage Easement - A right granted by a landowner to a grantee, allowing the use of private land for Stormwater management purposes.

Earth Disturbance Activity - A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, road maintenance, building construction and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Easement – Any easement granted to the County pursuant to Section 307(D) of this Ordinance.

Emergency Spillway – A conveyance area that is used to pass peak discharge greater than the maximum design storm controlled by a Stormwater Management facility.

Encroachment – A structure or activity that changes, expands, or diminishes the course, current or cross section of a watercourse, floodway, floodplain, or body of water.

Ephemeral stream – A stream with flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Erosion - The natural process by which the surface of the land is worn away by water, wind or chemical action.

Erosion and Sediment Pollution Control Plan - A plan for a project site which identifies BMPs to minimize accelerated erosion and sedimentation.

Exemption – A set of criteria which define limitations of activities which would exempt one from the creation of a formal stormwater management plan. Requests for Exemption are applied for with the Forest County Administrator of this Ordinance.

Exceptional Value Waters – Surface waters of high quality which satisfy Pennsylvania Code Title 25 Environmental Protection, Chapter 93, Water Quality Standards, § 93.4b(b) (relating to anti-degradation).

Extended Detention Volume (EDV) - Release of detained runoff in excess of Permanently Removed Volume (PRV) over a period of time not less than 24 and not more than 72 hours.

Existing Condition – The dominant land cover during the five (5) year period immediately preceding a proposed Regulated Activity.

Flood - A temporary condition of partial or complete inundation of land areas from the overflow of streams, rivers, and other waters of this Commonwealth.

Floodplain - Any land area susceptible to inundation by water from any natural source or delineated by applicable Federal Emergency Management Agency (FEMA) maps and studies as being a special flood hazard area. Also included are areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania Department of Environmental Protection (PA DEP) *Technical Manual for Sewage Enforcement Officers* (as amended or replaced from time to time by PA DEP).

Floodway - The channel of the watercourse and those portions of the adjoining floodplain that is reasonably required to carry and discharge the 100-year flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year floodway, the floodway includes floodplain areas within 50 feet of the top of each stream bank and the stream channel itself.

Freeboard - A vertical distance between the elevation of the design high water elevation and the top of a dam, levee, tank, basin, swale, or diversion berm. The space is required as a safety margin in a pond or basin.

Grade - A slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein. (To) Grade - to finish the surface of a roadbed, top of embankment or bottom of excavation.

Grassed Waterway - A natural or constructed waterway, usually broad and shallow, covered with erosion-resistant grasses, used to convey surface water.

Groundwater - Water beneath the earth's surface, often between saturated soil and rock that supplies wells and springs.

Groundwater Recharge - Replenishment of existing natural underground water supplies without degrading groundwater quality.

High Quality Waters – Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying Pennsylvania Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards, § 93.4b(a).

Hydric Soils - Soils that are characterized by the presence of water.

Hydrograph – A graph of stormwater or runoff discharge versus time for a selected point in the drainage system.

Hydrologic Soil Group (HSG) - Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSG's (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The Natural Resources Conservation Service (NRCS) of the US Department of Agriculture defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils underlying the project site may be identified from a soil survey report that can be obtained from local NRCS offices or conservation district offices. Soils become less pervious as the HSG varies from A to D.

Hydrophytic Vegetation - Plant life that is adapted to living in wet conditions.

Impervious Surface (Impervious Area) - A surface that prevents the infiltration of water into the ground. Impervious surfaces (or covers) shall include, but not be limited to:

i. roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures
ii. New streets or sidewalks, decks, parking areas, and driveway areas using traditional paved surfaces that prevent infiltration into the ground.
iii. existing gravel parking areas, driveways, and roads shall be treated as previously existing; proposed gravel parking areas, driveways, and roads shall be treated as impervious areas for all calculations

Impoundment - A retention or detention basin designed to retain Stormwater runoff and release it at a controlled rate.

Infiltration – Movement of surface water into the soil, where it is absorbed by plant roots, evaporates into the atmosphere, or percolates downward to recharge groundwater.

Infiltration Structures - A structure designed to direct runoff into the groundwater (e.g., French drains, seepage pits, and seepage trench).

Inlet - The upstream end of any structure through which water may flow.

Intermittent Stream - A stream with flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Karst – A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

Land Development (Development) – Inclusive of any or all of the following meanings: (i) the improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving (a) a group of two or more buildings, or (b) the division or allocation of land or space between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features; (ii) any subdivision of land; (iii) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

Lot - A part of a subdivision or a parcel of land used as a building site or intended to be used for building purposes, whether immediate or future, which would not be further subdivided.

Main Stem (Main Channel) - Any stream segment or other runoff conveyance facility used as a reach in the hydrologic model.

Manning Equation (Manning formula) - A method for calculation of velocity of flow (e.g., feet per second) and flow rate (e.g., cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. "Open channels" may include closed conduits so long as the flow is not under pressure.

Municipality – A township or borough located within Forest County.

Natural Recharge Area – Undisturbed surface area or depression where Stormwater collects, and a portion of which infiltrates and replenishes the underground and groundwater.

Non-point Source Pollution - Pollution that enters a water body from diffuse origins in the watershed and does not result from discernible, confined, or discrete conveyances.

Non-structural Best Management Practice (BMPs) – Methods of controlling Stormwater runoff quantity and quality, such as innovative site planning, impervious area and grading reduction, protection of natural depression areas, temporary ponding on site and other techniques.

NPDES - National Pollutant Discharge Elimination System, the federal government's system for issuance of permits under the Clean Water Act, which is delegated to PA DEP in Pennsylvania.

NRCS - Natural Resources Conservation Service (previously SCS).

Outfall - "Point source" as described in 40 CFR § 122.2 at the point where a municipal storm sewer system discharges to surface waters of the Commonwealth.

Outlet - Points of water disposal to a stream, river, lake, tidewater or artificial drain.

PA DOT - Pennsylvania Department of Transportation.

Parent Tract – The parcel of land from which a land development or subdivision originates, determined from the date of adoption of this Ordinance.

Parking Lot Storage - The use of parking areas as temporary impoundments with controlled release rates during rainstorms.

Peak Discharge - The maximum rate of Stormwater runoff from a specific storm event.

Pervious Surface (Pervious Area) – Any area or ground surface not defined as impervious and that may be vegetated or un-vegetated.

Pipe - A culvert, closed conduit, or similar structure (including appurtenances) that conveys Stormwater.

Planning Commission - The Forest County Conservation District and Planning Department.

Point Source - any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, or conduit from which Stormwater is or may be discharged, as defined in State regulations at 25 Pa. Code § 92.1.

Post-Construction – Period after construction where disturbed areas are stabilized, Stormwater controls are in place and functioning and all proposed improvements in the approved land development plan are completed.

Pre-development – Undeveloped/Natural Condition.

Pre-treatment – Techniques employed in Stormwater BMPs to provide storage or filtering to trap coarse materials and other pollutants before they enter the system.

Project Site - The specific area of land where any Regulated Activities in the County are planned, conducted, or maintained.

Qualified Professional – Any person licensed by the Pennsylvania Department of State or otherwise qualified to perform the work required by this Ordinance.

Recharge – The replenishment of groundwater through the infiltration of rainfall or Stormwater runoff.

Record Drawings - Those drawings maintained by the Applicant, Applicant's Contractor, or Applicant's Agent as the Applicants project is constructed; and upon which is documented the actual locations of the building components and changes to the original contract documents. These, or a copy of same, are filed with the Planning Commission at the completion of the project.

Redevelopment – The demolition, construction, reconstruction, alteration, or improvement exceeding 2,000 square feet of land disturbance performed on sites where existing land use is commercial, industrial, institutional, or multifamily residential. Maintenance activities such as top-layer grinding and re-paving are not considered redevelopment. Interior remodeling projects and tenant improvements are also not considered redevelopment. Utility trenches in streets are not considered redevelopment unless more than 50% of the street width is removed and re-paved.

Regulated Activities - All activities involving land development or earth disturbance activity that may affect stormwater runoff.

Regulated Earth Disturbance Activity - Activity involving Earth Disturbance subject to regulation under 25 PA Code Chapters 92, Chapter 102, or the Clean Streams Law.

Release Rate - The percentage of existing conditions peak rate of runoff from a site or subarea to which the post-development peak rate of runoff must be reduced to protect downstream areas.

Retention Basin - A structure in which Stormwater is stored and not released during the storm event. Retention Basins do not function without operational intervention to release stored Stormwater unless designed as infiltration-only basins.

Retention / Removed - The volume of runoff that is captured and not released directly into the surface Waters of this Commonwealth during or after a storm event.

Return Period - The interval, in years, within which a storm event of a given magnitude can be expected, on average, to recur. For example, the 25-year return period rainfall would be expected, on average, to recur every twenty-five years. The probability of a 25-year storm occurring in any one year is 0.04 or 4%

Riser - A vertical pipe extending from the bottom of a pond that is used to control the discharge rate from the pond for a specified design storm.

Road Maintenance - Earth disturbance activities within the existing road cross-section, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches and other similar activities.

Roof Drains - A drainage conduit or pipe that collects water runoff from a roof and leads it away from the structure.

Runoff - Any part of precipitation that flows over the land.

SALDO – Subdivision and Land Development Ordinance.

SCS – Soil Conservation Service (currently known as NRCS, Natural Resources Conservation Service). Also a commonly referred to method ("SCS Method") for the hydrologic computation and estimation of runoff from rainfall information that has been developed by the United States Department of Agriculture's Soil Conservation Service (SCS).

Sediment - Soils or other materials transported by surface water as a product of erosion.

Sediment Basin - A barrier, dam, retention or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water during construction.

Sediment Pollution - The placement, discharge or any other introduction of sediment into the waters of the Commonwealth.

Sedimentation - The process by which mineral or organic matter is accumulated or deposited by the movement of water or air.

Seepage Pit/Seepage Trench - An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the groundwater.

Separate Storm Sewer System - A conveyance or system of conveyances (including roads with drainage systems, Municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) primarily used for collecting and conveying Stormwater runoff.

Shallow Concentrated Flow - Stormwater runoff flowing in shallow, defined rills prior to entering a defined channel or waterway.

Sheet Flow – A flow process associated with broad, shallow water movement on sloping ground surfaces that is not channelized or concentrated.

Soil-Cover Complex Method - A method of runoff computation developed by the NRCS that is based on relating soil type and land use/cover to a runoff parameter called Curve Number (CN).

Spillway – A conveyance that is used to pass the peak discharge of the maximum design storm controlled by the Stormwater facility.

State Water Quality Requirements - The regulatory requirements to protect, maintain, reclaim, and restore water quality under Pennsylvania Code Title 25 and the Clean Streams Law.

Storage Indication Method - A reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

Storm Frequency - The number of times that a given storm "event" occurs or is exceeded on the average in a stated period of years. See "Return Period".

Storm Sewer - A system of pipes and/or open channels that convey intercepted runoff and Stormwater from other sources, but exclude domestic sewage and industrial wastes.

Stormwater - Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

Stormwater Management Facility - Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects Stormwater runoff. Typical Stormwater management facilities include, but are not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration structures.

Stormwater Management Plan - The plan for managing Stormwater runoff adopted by the County of Forest as required by the Act of October 4, 1978, P.L. 864, (Act 167), as amended, and known as the "Stormwater Management Act".

Stormwater Management BMPs - Is abbreviated as **SWM BMPs** throughout this Ordinance.

Stormwater Management Site Plan - The plan prepared by the Applicant or his representative indicating how Stormwater runoff will be managed at the project site in accordance with this Ordinance. Stormwater Management Site Pla**n** will be designated as **SWM Site Plan** throughout this Ordinance.

Stream – A natural watercourse.

Stream Enclosure - A bridge, culvert or other structure in excess of 100 feet in length upstream to downstream that encloses a regulated water of this Commonwealth.

Subarea (Sub-watershed) - The smallest drainage unit of a watershed for which Stormwater management criteria have been established in the Stormwater Management Plan.

Subdivision - The division or re-division of a lot, tract or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development (Refer to the PA Municipalities Planning Code, current version.)

Surface Waters of the/this Commonwealth - Any and all rivers, streams, creeks, rivulets, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

Swale - A low-lying stretch of land that gathers or carries surface water runoff.

Time-of-Concentration (T_c) - The time for surface runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. This time is the combined total of overland flow time and flow time in pipes or channels, if any.

Top-of-Bank – Highest point of elevation in a stream channel cross section at which a rising water level just begins to flow out of the channel and over the floodplain.

USACE - United States Army Corp of Engineers

Vernal Pond – Seasonal depressional wetlands that are covered by shallow water for variable periods from winter to spring, but may be completely dry for most of the summer and fall.

Waiver – A process/action by which a person can petition/request the Forest County Administrator of this Ordinance to waive certain defined criteria or requirements set forth within this Ordinance. Usually granted only where unique circumstances exist that preclude the normal application of certain elements of this Ordinance.

Watercourse - A channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

Waters of the/this Commonwealth - Rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs and other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

Watershed - Region or area drained by a river, watercourse or other body of water, whether natural or artificial.

Wet Basin – A detention basin that is designed to detain Stormwater and which always contains water.

Wetland - Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, and similar areas.

ARTICLE III – STORMWATER MANAGEMENT STANDARDS

Section 301. General Requirements

A. Written approval of a SWM Site Plan must be obtained from the Planning Commission by application to the Administrator prior to commencement of any Regulated Activities unless the proposed activity is specifically exempt from this requirement under Section 302. Certain exemptions outlined in Section 302 require the submission and approval of a Small Project SWM Application and/or Worksheet (see Appendix E).

B. SWM Site Plans approved by the Planning Commission shall be available on site throughout the duration of the Regulated Activity.

C. The Planning Commission may, after consultation with the PA DEP, approve measures for meeting the State Water Quality Requirements other than those in this Ordinance, provided they meet the minimum requirements of, and do not conflict with, State law including but not limited to the Clean Streams Law.

D. Impervious Areas:

    1. The measurement of impervious areas shall include all of the impervious areas in the total proposed development even if development is to take place in stages.

2. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.
3. For projects that add impervious area to a parcel, the impervious area existing prior to the initial adoption of this Ordinance will be exempt.
4. Proposed gravel parking areas, driveways, and roads shall be considered impervious.

E. Stormwater discharges onto adjacent property shall not be created, increased, decreased, or relocated, or otherwise altered without written permission of adjacent property owner(s). Such discharges shall be subject to the requirements of this Ordinance.

F. All regulated activities shall include such measures as necessary to:
1. Protect health, safety, and property;
2. Meet the water quality goals of this ordinance by implementing measures to:
a. Minimize disturbance to floodplains, wetlands, natural slopes over 15%, and existing native vegetation.
b. Minimize thermal impacts to Waters of the Commonwealth.
c. Preserve and maintain trees and woodlands and riparian buffers where practical.
d. Minimize soil disturbance and soil compaction.
e. Disconnect impervious surfaces by directing runoff to pervious areas.
3. Incorporate the techniques described in Appendix A of this Ordinance (Low Impact Development Practices) whenever practical.

G. Infiltration BMPs shall be spread out, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.

H. Storage facilities shall completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm.

I. The design storm volumes to be used in the analysis of peak discharge rates shall be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, US Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland, 20910. NOAA's Atlas 14 can be accessed at Internet address:

http://hdsc.nws.noaa.gov/hdsc/pfds/.

J. The Planning Commission may require that regulated activities maintain a minimum distance between proposed impervious areas/stormwater management facility outlets and down slope property line(s).

K. SWM BMPs for all Regulated Activities shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all

requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Stormwater Management Act.

L. For all regulated earth disturbance activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the regulated earth disturbance activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E&S Manual), No. 363-2134-008 (April 15, 2000), as amended and updated.

Section 302. Exemptions

A. Under no circumstance shall any Regulated Activities be exempt from implementing such measures as necessary to:

   1. Meet special requirements for projects within High Quality (HQ) and Exceptional Value (EV) watersheds (Section 307.G).

B. The Applicant must demonstrate that the following BMPs are being used to the maximum extent practicable to receive consideration for the exemptions:

   1. Design around and limit disturbance of Floodplains, Wetlands, Natural Slopes over 15%, existing native vegetation, and other sensitive and special value features.
   2. Maintain riparian and forested buffers.
   3. Limit grading and maintain non-erosive flow conditions in natural flow paths.
   4. Maintain existing tree canopies near impervious areas.
   5. Minimize soil disturbance and reclaim disturbed areas with topsoil and vegetation.
   6. Direct runoff to pervious areas.

C. The Applicant must demonstrate that the proposed development/additional impervious area will not adversely impact the following:

   1. Capacities of existing drainage ways and storm sewer systems.
   2. Velocities and erosion.
   3. Quality of runoff if direct discharge is proposed.
   4. Existing known problem areas.
   5. Safe conveyance of the additional runoff.
   6. Downstream property owners.

The Forest County Stormwater Management Administrator will review all applications for exemption filed and make reasonable determination as to the applicability of the exemption request. Once determination is made, applicants will be notified of the Administrator's decision within one week, (7 days), of receipt of the application, sooner when possible. All creation of impervious surfaces under 1,000 square feet are exempt from Small Project Applications

providing that local setback distances are respected, or if there are no local setback distances, then a 10 foot setback from any boundary line is maintained.

All Regulated Activities must comply with the State Water Quality Requirements.

D. The Planning Commission may accept alternative stormwater management controls under this section provided that:

   1. The alternative controls are documented to be acceptable to PADEP (or Delegated Authority), for NPDES requirements pertaining to post construction stormwater management requirements.

   2. The alternative controls comply with all other sections of this ordinance, including but not limited to Sections 301.C and 302.A-C.

E. Agricultural activities are exempt from the rate and SWM Site Plan preparation requirements of this ordinance provided the activities are performed according to the requirements of 25 Pa.Code Chapter 102.

F. Forest management and timber operations are exempt from the rate and volume control and SWM Site Plan preparation requirements of this ordinance provided the activities are performed according to the requirements of 25 Pa.Code Chapter 102.

Section 303. Waivers

A. The provisions of this Ordinance are the minimum standards for the protection of the public

B. Waivers shall not be issued from implementing such measures as necessary to:

   1. Meet State Water Quality Standards and Requirements.

   2. Protect health, safety, and property.

   3. Meet special requirements for High Quality (HQ) and Exceptional Value (EV) watersheds.

C. If an Applicant demonstrates to the Planning Commission's (or their designee, the Forest County Stormwater Management Administrator) satisfaction that any mandatory provision of this Ordinance is unreasonable or causes unique or undue unreasonableness or hardship as it applies to the proposed Project, or that an alternate design may result in a superior result within the context of Section 102 and 103 of this Ordinance, the Planning Commission (or their designee, the Forest County Stormwater Management Administrator) may consult and solicit comments and recommendations of the County Engineer, and then may grant a waiver or relief so that substantial justice may be done and the public interest is secured; provided that such waiver will not have the effect of nullifying the intent and purpose of this Ordinance. The Planning Commission and the Forest County Stormwater Management Administrator will consult and review regarding all waiver requests so as to allow applicants a fair minded even-handed and just waiver process.

D. The Applicant shall submit all requests for waivers in writing and shall include such requests as a part of the plan review and approval process. The Applicant shall state in full the facts of unreasonableness or hardship on which the request is based, the provision or provisions of the

Ordinance that are involved, and the minimum waiver or relief that is necessary. The Applicant shall state how the requested waiver and how the Applicant's proposal shall result in an equal or better means of complying with the requirements of this Ordinance.

E. The Planning Commission shall keep a written record of all actions on waiver requests. The Planning Commission may charge a fee for each waiver request, which shall be used to offset the administrative costs of reviewing the waiver request. The Applicant shall also agree to reimburse the Planning Commission for reasonable and necessary fees that may be incurred by the County Engineer in any review of a waiver request.

F. In granting waivers, the Planning Commission may impose reasonable conditions that will, in its judgment, secure substantially the objectives of the standards or requirements that are to be modified.

G. The Planning Commission may grant applications for waivers when the following findings are made, as relevant:

1. That the waiver shall result in an equal or better means of complying with the intent of this Ordinance.
2. That the waiver is the minimum necessary to provide relief.
3. That the applicant is not requesting a waiver based on cost considerations.
4. That existing down gradient stormwater problems will not be exacerbated.
5. That runoff is not being diverted to a different drainage area.
6. That increased flooding or ponding on off-site properties or roadways will not occur.
7. That potential icing conditions will not occur.
8. That increases in peak flow or volume from the site will not occur.
9. That erosive conditions will not occur due to increased peak flows or volume.
10. That adverse impact to water quality will not result.
11. That increased or unusual public maintenance expenses will not result from the waiver.
12. That the amount of stormwater generated has been minimized to the greatest extent allowed.
13. That infiltration of runoff throughout the proposed site has been provided where practicable and pre-development ground water recharge protected.
14. That peak flow attenuation of runoff has been provided.
15. That long-term operation and maintenance activities are established.
16. That the receiving streams and/or water bodies will not be adversely impacted in flood carrying capacity, aquatic habitat, channel stability and erosion and sedimentation.

Section 304. Volume Controls

The low impact development practices provided in the PA BMP Manual shall be used for all regulated activities to the maximum extent practicable. Water volume controls shall be implemented using the Design Storm Method in Subsection A or the Simplified Method in Subsection B below. For regulated activity areas equal or less than 1 acre that do not require hydrologic routing to design the stormwater facilities, this Ordinance establishes no preference for either methodology; therefore, the applicant may select either methodology on the basis of economic considerations, the intrinsic limitations on applicability of the analytical procedures associated with each methodology, and other factors.

A. The Design Storm Method (CG-1 in the PA BMP Manual (current version)) is applicable to any size of Regulated Activity. This method requires detailed modeling based on site conditions.
    1. Do not increase the post development total runoff volume for all storms equal to or less than the 2-year 24-hour duration precipitation.
    2. For modeling purposes:
        a. Existing (pre-development) non-forested pervious areas must be considered meadow or its equivalent.
        b. Twenty (20) percent of existing impervious area, when present, shall be considered meadow in the model for existing conditions.

Section 305. Rate Controls

A list of BMPs for peak rate controls is provided in Appendix B, Item C.

Section 306. Calculation Methods

A. Stormwater runoff from all project sites shall be calculated using a generally accepted calculation technique that is based on the NRCS soil cover complex method. Table 306-1 summarizes acceptable computation methods and the method selected by the Qualified Professional shall be based on the individual limitations and suitability of each method for a particular site.

TABLE 306-1

ACCEPTABLE COMPUTATION METHODOLOGIES FOR STORMWATER MANAGEMENT PLANS

Method	Method Developed By	Applicability
TR-20/WINTR20 *(or commercial computer package based on TR-20)*	USDA NRCS	Applicable where use of full hydrology computer model is desirable or necessary.
TR-55/WINTR55 *(or commercial computer package based on TR-55)*	USDA NRCS	Applicable for land development plans within limitations described in TR-55.
HEC-HMS	US Army Corps of Engineers	Applicable where use of full hydrologic computer model is desirable or necessary.
Rational Formula *(or commercial computer package based on Rational Formula)*	Emil Kuichling (1889)	For sites less than fifty acres and with time of concentration less than 60 minutes (T_c< 60 min), or as approved by the County
Other Methods such as SWMM, WMS, etc.	Varies	Other computation methodologies approved by the County

Note: Successors to the above methods are also acceptable.

B. All calculations consistent with this Ordinance using the soil cover complex method shall use the appropriate design rainfall depths and intensities for the various return period storms according to the approximate center of the proposed development site, in accordance with the values obtained from the National Oceanic and Atmospheric Administration's (NOAA) Hydrometeorological Design Studies Center Precipitation Frequency Data Server (PFDS) at the following location for the Commonwealth of Pennsylvania:

   http://hdsc.nws.noaa.gov/hdsc/pfds/index.html

   Applicant shall provide documentation of PFDS data location (latitude and longitude in degrees/minutes/seconds).

C. All calculations using the Rational Formula shall use rainfall intensities consistent with appropriate times-of-concentration for overland flow and return periods from the NOAA, PFDS website, the Design Storm Curves from PA DOT Design Rainfall Curves (1986) and NOAA Atlas 14.

D. Times-of-concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of Urban Hydrology for Small Watersheds, NRCS, and TR-55 (as amended or replaced from time to time by NRCS). Times-of-concentration for channel and pipe flow shall be computed using Manning's equation. NRCS lag equation divided by 0.6 as acceptable method for T_c in undeveloped areas.

E. In order to reduce stormwater runoff volumes from developed areas and encourage groundwater recharge, underground basin drains, infiltration trenches, dry wells, and cisterns are permitted to which roof leaders may be connected. These drains consist of stone-filled basins that temporarily store and release water below ground surface. Plans for such facilities shall be submitted to the Planning Commission for approval by the Planning Commission, and the basins shall be used only in those areas where soils, geologic, and water table conditions permit.

F. Runoff Curve Numbers (CN) for both existing and proposed conditions to be used in the soil cover complex method shall be obtained from Table 2-2 of the TR-55 manual.

G. Runoff coefficients (C) for both existing and proposed conditions for use in the Rational Formula are provided in Appendix D.

H. All flow assumptions and source of supporting data shall be provided as part of the overall plan. The Planning Commission shall have the right to reject any submitted values, despite the source, and to provide a substitute source for use by the applicant.

I. Where uniform flow is anticipated, the Manning equation shall be used for hydraulic computations, and to determine the capacity of open channels, pipes, and storm sewers. Values for Manning's roughness coefficient (n) shall be consistent with generally accepted values from a legitimate and verifiable source. All flow assumptions and source of supporting data shall be provided as part of the overall plan. The Planning Commission may reject any submitted values, despite the source, and to provide a substitute source for use by the applicant. Full flow capacity shall be assumed for closed conduits. Storm sewer systems consisting of more than three pipe junctions shall be designed using hydraulic grade line computations.

J. Outlet structures for Stormwater management facilities shall be designed to meet the performance standards of this Ordinance using any generally accepted hydraulic analysis technique or method.

   The design of any Stormwater detention facilities intended to meet the performance standards of this Ordinance shall be verified by routing the design storm hydrograph through these facilities using the Storage-Indication Method. For drainage areas greater than 200 acres in size, the design storm hydrograph shall be computed using a calculation method that produces a full hydrograph (i.e. TR-20, TR-55, and HEC-HMS).

K. Stormwater management and related facilities shall be provided:

   1. To permit unimpeded flow of natural watercourses. Such flow may be redirected as required, subject to the approval of the Pennsylvania Department of Environmental Protection and the Planning Commission.

   2. To ensure adequate drainage of all street low points.

L. Multiple Use Basins: The design and construction of multiple use stormwater detention facilities are strongly encouraged. In addition to stormwater management; where appropriate, facilities allow for recreational uses including: ball fields, play areas, picnic grounds, etc. Provision for parking facilities within basins and permanent wet ponds with stormwater management capabilities may also be appropriate. Prior approval and consultation with the

Administrator are required before design. Multiple use basins shall be constructed so that potentially dangerous conditions are not created.

M. Multiple Development Basins: Stormwater management facilities designed to serve more than one property or development in the same watershed are encouraged. Staged construction of existing or proposed multiple-use detention facilities by several developers in conjunction with watershed development is encouraged. Each applicant shall be responsible for the incremental increase in stormwater runoff generated by the respective development and incremental construction improvements necessary for the overall detention facility. Prior approval and consultation with the Administrator is required before design of such facilities.

Section 307. Other Requirements

A. The Planning Commission may disapprove any design that would result in the construction or continuation of a Stormwater problem area.

B. Stormwater management facilities located outside of existing or proposed public rights-of-way shall be constructed by the Applicant and located within and accessible by easements granted to the County and the Municipality in which the facility is located as follows:

1. Drainage Easements: Where a tract is traversed by a watercourse, drainage way, channel or stream, there shall be provided a drainage easement paralleling the centerline of such watercourse, drainage way, channel or stream. The width of the drainage easement will be adequate to preserve the unimpeded natural flow of the 100-year storm, in accordance with computed top widths for water surface elevations.

2. Access Easements: Where proposed stormwater management facilities are not adjacent to proposed or existing public right-of-ways or are not accessible due to physical constraints, as determined by the Planning Commission, a twenty (20) feet wide access easement specifying rights of entry shall be provided. Access easements shall provide for vehicle ingress and egress on grades of less than ten (10) percent for carrying out inspection or maintenance activities. Vehicle ingress and egress and access roads are not required for SWM BMPs serving one Single Family Residential lot and located on the same lot they serve.

3. Maintenance Easements: A maintenance easement shall be provided which encompasses the stormwater facility and appurtenances and provides for access for maintenance purposes. The maintenance easement must be located at least twenty (20) feet outside of the line of intersection of the 100-year water surface elevation and the ground surface for the stormwater facility and appurtenances.

4. Easements shall state that no trees, shrubs, structures, excavation, placement of fill, or re-grading are to be performed within the easement without written approval from the Planning Commission. Upon approval of the Planning Commission, such landscaping may be placed in maintenance easements, provided it does not impede access.

5. Whenever practicable, easements shall be parallel to width and linked to property lines of the subdivision.

6. All easements shall require the landowner to maintain and protect the integrity of the easements.
7. All easement agreements shall be recorded with a reference to the recorded easement indicated on the site plan. The format and content of the easement agreement shall be reviewed and approved by the Planning Commission and Solicitor.

C. In order to promote overland flow and infiltration, roof drains shall not discharge directly to streets or storm sewers. Roof drains may discharge directly to streets or storm sewers when deemed necessary by the Planning Commission. Under no circumstances shall roof drains discharge directly to sanitary sewer systems.

D. Projects that have the potential to discharge into surface waters that have existing or designated HQ or EV uses (including EV wetlands), have impairments due to stormwater, are connected to combined sewer systems, or have the potential to have an adverse effect on threatened or endangered species, or critical habitat for such species, are subject to additional BMP measures that must be considered and implemented for projects occurring in these more environmentally-sensitive areas:

Constructed wetlands / Wet ponds	Significant detention of peak flow rates is needed and the contributing drainage area is large; retrofit existing detention basins are construct new in open median or interchange areas
Permeable pavement	Limited to park-and-ride sites and parking lots
Manufactured products: Subsurface storage, water quality inlets, etc.	Subsurface storage products are designed to temper peak runoff events through infiltration and/or discharge rate reduction. Storm sewer inlet structures or inserts are designed to minimize the discharge of solids, floatables, and oil/grease pollutants. Regular maintenance of these products is necessary and is an important factor in assessing the feasibility of using one of these products.

ARTICLE IV - SWM SITE PLAN AND REPORT REQUIREMENTS

Section 401. Plan and Report Contents

A. All regulated activities that do not fall under the exemption criteria referenced herein shall submit a SWM Site Plan and Report to the Administrator for review. These criteria shall apply to the total proposed development even if development is to take place in stages.

B. The following items shall be included in the SWM Site Plan:

1. Appropriate sections from the County SALDO and other applicable County or Municipal ordinances shall be followed in preparing the SWM Site Plans. In instances where the Municipality lacks Subdivision and Land Development regulations, the County SALDO shall be followed.

2. The SWM Site Plan shall provide the following information:

a. Unless any one or more is deemed unnecessary by the Planning Commission, the following must be shown on the SWM Site Plan.

i. Annotated maps, drawings, engineering plans, and construction details. Said plan depending on the complexity may require a Qualified Professional, with said preparer's seal and registration number affixed to the plan.

i. The name of the proposed development and the name and address of the owner of the property and the individual or firm preparing the plan.

ii. Date of submission and revision, graphic scale, and North arrow.

iii. Total tract boundary with distances marked to the nearest foot and bearings to the nearest degree and the total acreage of the tract.

iv. Key map (drawn to scale) showing all existing natural and man-made features beyond the property boundary affected by the project and the extent of the watershed or sub-basin which drains through the project site.

v. Existing and proposed topographic contours shall be provided at intervals not greater than five (5) feet for existing and proposed conditions.

vi. Topographic contours at intervals less than five (5) feet may be required for flat sites, and to depict certain existing and future stormwater management features. The reference datum used to develop topographic contours shall be stated on the plans.

vii. Existing and proposed use, including the total area of impervious surfaces after construction.

viii. Location and selected plant material used for vegetative filter paths to sinkholes, stream buffers, buffer yards, wetlands, streams, and other waters of the Commonwealth, and the location of all notices to be posted, as specified in this Ordinance. If stormwater management

facilities are off-site, a note on the plan referring to location and agreements indicating responsibility for conveyance to and maintenance of the facilities; all such off-site facilities shall meet the design standards and criteria specified in this Ordinance, and details of the facilities shall be included with the plan.

b. An erosion and sediment pollution control plan, as prepared for and submitted to the County Conservation District and PADEP.

c. Plan and profile, and construction detail drawings of all SWM BMPs including open channels and swales.

d. Locations of existing watercourses (including stream name per PA DEP Chapter 93 designation, or otherwise noted as “unnamed tributary” with Chapter 93 numeric designation) and existing and proposed on-lot wastewater facilities, water supply wells, and infiltration areas.

e. Locations of all access and maintenance easements, suitable for Recording.

f. Signature blocks:

The following signature block for the Planning Commission:

The Forest County Conservation District and Planning Department has reviewed this SWM Site Plan and approves same as being in accordance with the design standards and criteria of the Forest County Stormwater Management Ordinance."

_____ ,

Planning Department Chairman

Print Name: _____

The following signature block for the Qualified Professional:

Each of the undersigned hereby certifies that this SWM Site Plan was prepared in strict accordance with all of the design standards and criteria of all applicable County and Municipal Ordinances.”

_____ _____

Print Name:_____ Print Name:_____

The following signature block for the Applicant/Owner:

On this the _____ day of _____, 20__, each of the undersigned, intending to bind each of his/her heirs, successors, grantees, and assigns, does hereby covenant and agree to keep the stormwater management system shown hereon, together with all easements granted to the County in connection therewith in good repair and maintenance, and that such stormwater system shall remain as a permanent fixture that cannot be

altered, replaced, or removed without prior written approval from the Forest County Conservation District and Planning Department."

_____ _____

Print Name:_____ Print Name:_____

g. At the option of the Planning Commission, the following notice may be included:

Note that a verified “as built” version of the Record drawings must be submitted to the Planning Commission by the Applicant's Registered Engineer, Surveyor or other Qualified Professional, until which time neither occupancy nor the release of any surety bond is permitted. The Planning Commission reserves the right to review said drawings and to revoke approval upon a finding of material discrepancy with the approved SWM Plan.

C. The following items shall be included in the SWM Report

1. The overall Stormwater management concept for the project.
2. A determination of Site Conditions in accordance with Appendix B. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or karst topography, and other environmentally sensitive areas such as brownfields.
3. Stormwater runoff design computations and documentation as specified in this Ordinance, or otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this Ordinance, including the recommendations and general requirements in Section 301. All calculations shall be submitted to the Administrator on computation sheets for approval. If the Administrator or the Planning Commission determines through review and independent computation that the size(s) of stormwater management facilities is insufficient, the Applicant may be required to increase the size(s) of said stormwater management facilities. If the storm drainage system design is completed on a computer installation, sufficient supporting data shall be provided to allow comprehensive review.
4. Expected project construction schedule.
5. The effect of the project (in terms of runoff volumes and peak flows) on adjacent properties and on any existing Municipal Stormwater collection system that may receive runoff from the project site.
6. Copies of all permits related to the SWM Site Plan required by the Pennsylvania Department of Environmental Protection, Pennsylvania Department of Transportation (PA DOT), and U.S. Army Corps of Engineers (USACOE) and other regulatory agencies.
7. The SWM Site Plan shall include an operation and maintenance (O&M) plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for operation and maintenance as well as schedules and costs for O&M activities.

8. Hydrologic and hydraulic computations for all existing and proposed stormwater management facilities and measures.
9. Construction specifications for SWM BMPs and storm drainage systems.
10. Each stormwater management report shall contain provisions that clearly set forth the ownership and maintenance responsibility of all permanent stormwater management, and erosion and sediment control facilities. Including:
    a. Description of Maintenance Requirements.
    b. Establishment of suitable easements for access to all facilities by Public Officials, in accordance with this Article.
    c. Identification of the responsible party or entity for ownership and maintenance of both temporary and permanent stormwater management facilities. In meeting this requirement, the following options are hereby provided for upon approval by the Planning Commission.

       Facilities may be incorporated within individual lots so that the respective lot owners will own and be responsible for maintenance in accordance with recorded deed restriction. A description of the facility or system and the terms of the required maintenance shall be incorporated as part of the deed to the property.

       Ownership and maintenance may be the responsibility of a Property Owners Association. The stated responsibilities of the Property Owners Association in terms of owning and maintaining the stormwater management facilities shall be submitted with final plans for determination of their adequacy, and upon their approval shall be recorded with the approved subdivision plan among the County deed records. In addition, the approved subdivision plan and any deed written from said plan for a lot or lots shown herein shall contain a condition that it shall be mandatory for the owner or owners of said lot to be members of said Property Owners Association.
    d. For stormwater management facilities that are proposed as part of the site development plan, the applicant will be required to execute a developer agreement and a maintenance agreement with the County for the construction and continued maintenance of the facilities prior to approval of the final plan. Access for inspection by County and/or municipal officials of all such facilities deemed critical to the public welfare at any reasonable time shall be provided.
    e. In the event the above priorities cannot be achieved, or where it is required, the facilities may be dedicated to the Municipality in accordance with this Ordinance. As a condition of Municipality acceptance of said facilities, the applicant shall provide fifteen (15) percent of the cost of improvements, in the form of a maintenance bond, as estimated by the applicant's Qualified Professional, and approved by the Municipality, to cover contingency maintenance costs for eighteen (18) months from the date of stormwater management facilities acceptance of dedication. The fifteen (15) percent bond shall be based on the construction costs of the detention basin and outlet structure within the area dedicated to the municipality.

11. Example Report Sections:

    Introduction
    Existing Site Conditions
    Models
    Existing Soils Information
    Volume Mitigation
        Description And Background Information
    Peak Rate Mitigation
        Description And Background Information
        Pre-Development Conditions
        Post-Development Conditions
        Stormwater/Detention Basin Hydraulics
        Storm Drain Design
        Peak-Rate Mitigation Results
    Effect of Project on Adjacent Properties
    Expected Project Construction Schedule
    Ownership and Maintenance
    Appendices
        Volume Mitigation Calculations, Worksheets And Information
        Peak Rate Mitigation Calculations And Information
        Water Quality Worksheets And Information
        Precipitation Source Data
        SCS Runoff Curve Numbers, Rational Runoff Coefficients, Manning's coefficients
        Miscellaneous Computations
        Infiltration Rate Test Data
        General References
        Construction Specifications for SWM BMPs

D. Small Project SWM Application
    1. Refer to Appendix E.

Section 402. Plan Submission

A. Three (3) copies of the SWM Site Plan shall be filed with the Administrator:

B. The Administrator shall stamp each copy with the date of receipt.

C. Additional copies shall be submitted as requested by the Administrator.

Section 403. Plan Review

A. The SWM Site Plan shall initially be reviewed by the Administrator for consistency with the provisions of this Ordinance. At the Administrator's discretion, engineering and/or other technical aspects of the SWM Site Plan may be reviewed by the County Engineer or other Qualified Professional. The reviewer shall provide the Administrator with a written report containing the reviewer's recommendations for the approval or disapproval and the reasons therefor. The reviewer also may recommend approval with conditions and, if so, shall specify those conditions.

B. The Administrator shall promptly upon completion of the initial review forward a copy of the SWM Site Plan to the Planning Commission together with the Administrator's written recommendations and those of any Qualified Professionals participating in the initial review.

C. The Planning Commission shall notify the Applicant of its decision in writing as soon as it is feasible.

D. The Planning Commission's approval of a SWM Site Plan shall be valid for a period not to exceed five (5) years. This five-year period shall commence on the date that the Planning Commission signs the approved SWM Site Plan. If Stormwater management facilities included in the approved SWM Site Plan have not been constructed, or if a Record Drawing of these facilities has not been approved by the Administrator within this five-year time period, then the Administrator may deem the SWM Site Plan disapproved and may revoke any and all permits. SWM Site Plans that are considered disapproved by the Administrator shall be resubmitted in accordance with this Ordinance.

Section 404. Modification of Plans

A modification to an approved SWM Site Plan that involves a change in SWM BMPs or techniques, or that involves the relocation or re-design of SWM BMPs, or that is necessary because soil or other conditions are not as stated on the SWM Site Plan, shall require a resubmission of the modified SWM Site Plan in accordance with this Article.

Section 405. Resubmission of Disapproved SWM Site Plans

A disapproved SWM Site Plan may be resubmitted to the Administrator with the revisions addressing the Administrator's concerns, whereupon the submission will be reviewed and approved or disapproved in accordance with this Article. The applicable Review Fee must accompany a resubmission of a disapproved SWM Site Plan.

Section 406. Record Drawings and Final Inspection

A. The Applicant shall be responsible for completing Record Drawings of all SWM BMPs included in the approved SWM Site Plan. The Record Drawings and an explanation of any discrepancies with the design plans shall be submitted to the Administrator.

B. The submission shall include a signed statement from a Qualified Professional verifying that all permanent SWM BMPs have been constructed according to the plans and specifications and approved revisions thereto.

C. After receipt of the signed statement and the Record Drawings by the Administrator, the Administrator may conduct a final inspection.

ARTICLE V - OPERATION AND MAINTENANCE

Section 501. Responsibilities

A. The Administrator shall make the initial determination as to the continuing maintenance responsibilities of the Applicant prior to final approval of the SWM Site Plan. The Administrator may require as part of the requirements for approval of the SWM Site Plan. The County or the Municipality in which the facilities are located. Such a requirement does not insure that the County or Municipality will accept such dedication, and it shall be the Applicant's responsibility to secure same.

B. All SWM BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions.

C. The Operation and Maintenance Plan shall be recorded as a restrictive deed covenant that runs with the land.

D. The Administrator shall take enforcement actions against an owner for any failure to satisfy the provisions of this Article.

Section 502. Operation and Maintenance Agreements

The Applicant is responsible for Operation and Maintenance of the SWM BMP's, and for preparing an Operation and Maintenance Agreement in accordance with Appendix C.

ARTICLE VI - FEES AND EXPENSES

Section 601. General

All costs incurred shall be included in the Review Fee charged to an Applicant. The Review Fee may include but not be limited to costs for the following:

A. Review of the SWM Site Plan.

B. Inspections.

C. Qualified Professional Review and Meeting Costs.

D. Recording Fees and Costs for Plan Reduction to Meet County Recording Requirements (if required).

Standard fees shall be enumerated in a Fee Schedule as adopted and amended from time to time by Forest County or the Planning Commission.

Section 602. Fees and Charges

A. Fee Schedule

100 square feet impervious surface – 5,000 square feet	$ 25.00
>5,000 square feet	$150.00

*When needed, an independent Qualified Engineer may be used, AS APPROPRIATE, for review of technical portions of a Stormwater Management Plan; Any & All Engineering Review Fees shall then be assessed to the applicant.

B. NO PLAN SHALL BE APPROVED PRIOR TO FULL PAYMENT OF FEES.

ARTICLE VII - PROHIBITIONS

Section 701. Prohibited Discharges and Connections

A. Any drain or conveyance, whether on the surface or subsurface, which allows any non-Stormwater discharge including sewage, process wastewater, and wash water to enter the Waters of this Commonwealth is prohibited.

Section 702. Roof Drains

Roof drains and sump pumps shall discharge to infiltration or vegetative BMP's.

Section 703. Alteration of BMPs

No person shall modify, remove, fill, landscape, or alter any SWM BMPs without the prior written approval of the Administrator.

ARTICLE VIII - ENFORCEMENT AND PENALTIES

Section 801. Right-of-Entry

As a condition of approval of an Applicant's Stormwater management site plan, and upon presentation of proper credentials, the Applicant agrees that the Administrator, and/or any other authorized Planning Commission employee, agent or contractor, may enter at reasonable times upon any property within the County to inspect the condition of the Stormwater structures and facilities or lack thereof.

Section 802. Inspection

SWM BMPs shall be inspected by the Applicant according to the following list of frequencies:

A. Annually.

B. The County shall have the right to inspect at any time.

Section 803. Enforcement

A. It shall be unlawful for any person to undertake any Regulated Activity within the County except as provided in an approved SWM Site Plan unless specifically exempted in Section 302.

B. It shall be unlawful to for a person engaged in a Regulated activity to fail to construct, operate or maintain any control structure required by an approved SWM Site Plan in accordance with its terms.

C. It shall be unlawful for any person to alter, remove, or otherwise interfere with the operational integrity of any stormwater control structure whether or not installed in accordance with an approved SWM Site Plan.

D. It shall be unlawful for any person bound thereby to default in the performance of, fail to observe, or otherwise violate any provisions of an Operation and Maintenance Agreement or Easement.

E. It shall be unlawful for any person to obstruct the performance of any inspection required under this Ordinance or for any landowner bound thereby to default in the conduct of any inspection required under this Ordinance.

F. Any person violating any of the provisions of this Section 803 commits a summary offense, and upon conviction thereof shall be fined, for the use of the County, not more than $500 for each violation, recoverable with costs. Each day that the violation continues constitutes a separate violation, and penalties shall be cumulative.

Section 804. Suspension and Revocation

A. Any approval for a Regulated Activity may be suspended or revoked by the Administrator for:

1. Non-compliance with, or failure to implement any provision of the approval, including Record Drawings and Operations and Maintenance Agreements.
2. A violation of any provision of this Ordinance or any other applicable law, Ordinance, rule or regulation relating to the Regulated Activity.
3. The creation of any condition or the commission of any act during the Regulated Activity which constitutes or creates a hazard or nuisance, pollution, or which endangers the life or property of others.

B. A suspended approval may be reinstated by the Administrator when:

   1. The Administrator has inspected and approved the corrections to the violations that caused the suspension.

   2. The Administrator is satisfied that the violation has been corrected.

C. An approval that has been revoked by the Administrator cannot be reinstated. The Applicant may apply for a new approval under the provisions of this Ordinance.

D. If a violation causes no immediate danger to life, public health, or property, the Administrator at his or her sole discretion, may provide a limited time for the owner to correct the violation. In such case, the Administrator will provide the owner, or the owner's designee, with a written notice of the violation and the time allowed the owner to correct the violation. If the owner does not correct the violation within the allowed time, the Administrator may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

Section 805. Civil Remedies

A. A violation of any provision of this Ordinance is hereby declared to constitute a public nuisance abatable as such at law or equity.

B. The Administrator may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

C. In the event any landowner subject thereto shall fail to operate and maintain the BMPs in accordance with the provisions of an Operation and Maintenance Agreement, or fails to perform the maintenance obligations undertaken with respect to any easement granted to the County in connection therewith, the County may cause the required work to be performed, whereupon the cost thereof shall be charged to and collected from the owner in the same fashion, as municipal claims and liens are levied and collected, and/or may collect same by civil action in assumption.

D. The remedies described in this Section 805, together with the enforcement provisions of Section 803 are cumulative and non-exclusive, and any one or more, together with any other remedy at law or equity may at any time be pursued individually, simultaneously or serially.

Section 806. Appeals

A. Any person aggrieved by any action of the Administrator relevant to the provisions of this Ordinance, may appeal to the Planning Commission within thirty (30) days of the date of that action.

B. Any person aggrieved by any decision of the Planning Commission, relevant to the provisions of this Ordinance, may appeal to the County Court of Common Pleas of Forest County within thirty (30) days of the date of such decision.

ARTICLE X – ADOPTION

This Forest County Stormwater Management Ordinance is hereby adopted in accordance with action taker at the July 16, 2015 meeting of the Board of Forest County Commissioners.

This Ordinance shall take effect immediately.

Basil D. Huffman, Chairman

Robert J. Snyder, Jr., Commissioner

Norman J Wimer, Commissioner

ATTEST:

Lynette Greathouse

Lynette Greathouse, Chief Clerk

APPENDIX A

LOW IMPACT DEVELOPMENT PRACTICES
ALTERNATIVE APPROACHES FOR MANAGING STORMWATER RUNOFF

Natural hydrologic conditions may be altered by development practices, which may create impervious surfaces, destroy drainage swales, construct storm sewers, and change local topography. A traditional approach to drainage has been to remove runoff from sites as quickly as possible and capture it in downstream detention basins. This approach leads to the degradation of water quality as well as additional expenditures for detaining and managing concentrated runoff.

The recommended approach is to promote practices that will minimize post-development runoff rates and volumes and minimize needs for artificial conveyance and storage facilities. To simulate pre-development hydrologic conditions, increased infiltration often is helpful to offset the effects of increasing the area of impervious surfaces. The ability to increase infiltration depends upon the soil types and land use.

Preserving natural hydrologic conditions requires careful site design that includes preservation of natural drainage features, minimization of impervious surfaces, reduction of hydraulic connectivity of impervious surfaces, and protection of natural depression storage areas. A well-designed site will contain a mix of all these features. The following describes various techniques to achieve this:

A. Preserve Drainage Features. Protect natural drainage features, particularly vegetated drainage swales and channels. Locate streets and adjacent storm sewers away from valleys and swales.

B. Protect Natural Depression Storage Areas. Depression storage areas have no surface outlet, or they drain very slowly. Depressions shall be protected and the storage capacity shall be incorporated into required detention facilities.

C. Avoid Creating Impervious Surfaces. Reduce impervious surfaces to the maximum extent possible. Building footprints, sidewalks, driveways and other features shall be minimized.

D. Avoid Connecting Impervious Surfaces. Route roof runoff over lawns and avoid using storm sewers. Grade sites to increase the travel time of Stormwater runoff. Avoid concentrating runoff.

E. Use Pervious-Paving Materials. Use pervious materials for driveways, parking lots, access roads, sidewalks, bike trails and hiking trails. Provide pervious strips between streets and sidewalks.

APPENDIX B

A. LIST OF SITE CONDITIONS SUITABLE FOR INFILTRATION

1. Depth of bedrock below the invert of infiltration BMPs shall be greater than or equal to 2 feet.
2. Depth of seasonal high water table below the invert of infiltration BMPs shall be greater than or equal to 2 feet.
3. Soil permeability test results shall be greater than or equal to 0.10 inches / hour and less than or equal to 10 inches per hour.
4. The appropriate factor of safety, per the existing soil conditions, and per the guidance provided per the Pennsylvania Stormwater BMP Manual (current version) shall be applied to the final infiltration rate used for design.
5. Methodologies and procedures for properly determining soil infiltration rates can be found within the Pennsylvania Stormwater Best Management Practices Manual.
6. Setback distances or buffers of infiltration BMPs shall be a minimum of:
    a. One hundred (100) feet from individual water supply wells and from community or Municipal water supply wells.
    b. Twenty (20) feet from building foundations.
    c. Fifty (50) feet from septic system drain fields.
    d. Fifty (50) from karst geologic contacts such as sinkholes, closed depressions, fracture traces, faults, and pinnacles.
    e. Twenty (20) from the property line unless documentation is provided to show that all setbacks from wells, foundations and drain fields on neighboring properties will be met

B. EFFECTIVE BMPs FOR INFILTRATION

1. Infiltration trench
2. Infiltration Basin/Sub-Surface Infiltration Bed
3. Bio Filters, Rain Gardens, Bio-Infiltration, Bio Swales
4. Filters for pre-treatment.
5. Dry Well/Seepage Pits
6. Pervious Pavement/Concrete
7. Soil Amendments
8. Riparian Buffer Restoration

C. EFFECTIVE BMPs FOR RATE CONTROL

1. Wet Ponds

2. Stormwater Wetlands
3. Extended Detention (dry) Ponds
4. Vegetated Swales
5. Floodplain Restoration
6. Constructed Filters
7. Runoff volume reduction BMPs listed and B and C above such as retention, infiltration and re-vegetation.

D. EFFECTIVE BMPs FOR BIO-RETENTION AND EVAPOTRANSPIRATION

1. Rain gardens
2. Green roofs
3. Constructed Wetlands
4. Select, commercially available products (as approved by the Planning Commission)

Consult the Pennsylvania Stormwater Best Management Practices Manual for all available BMPs and stormwater technologies that can effectively mitigate stormwater runoff, volume, and quality issues.

APPENDIX C

OPERATION AND MAINTENANCE AGREEMENT
STORMWATER BEST MANAGEMENT PRACTICES

THIS AGREEMENT, made and entered into this _____ day of _____, 20__, by and between _____, (hereinafter the "Landowner"), and Forest County, Pennsylvania, (hereinafter "County");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of Forest County, Pennsylvania, Deed Book _____ at Page _____, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the Stormwater management BMP Operation and Maintenance Plan approved by the County (hereinafter referred to as the "Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the County, provides for management of Stormwater within the confines of the Property through the use of Best Management Practices (BMPs); and

WHEREAS, the County, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the County and the protection and maintenance of water quality require that on-site Stormwater Best Management Practices be constructed and maintained on the Property; and

WHEREAS, the County requires, through the implementation of the SWM Site Plan, that Stormwater management BMP's as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, his successors and assigns.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and intending to be legally bound hereby, the parties hereto agree as follows:

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.

2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order accordance with the specific maintenance requirements noted on the approved SWM Site Plan.

3. The Landowner hereby grants permission to the Forest County Conservation District and Planning Department, its authorized agents, contractors and employees, (hereinafter, the "Authorized County Personnel") to enter upon the property, at reasonable times and upon presentation of

proper credentials, to inspect the BMPs whenever necessary. Whenever possible, advance notification shall be given to the Landowner prior to entering the property.

4. In the event the Landowner or any successor in ownership fails to operate and maintain the BMPs in accordance with paragraph 2, or fails to perform the maintenance obligations undertaken with respect to any easement granted to the County in connection therewith, the County may cause its Authorized County Personnel to perform the required work, whereupon the cost thereof shall be charged to and collected from the owner in the same fashion, as municipal claims and liens are levied and collected, and/or may collect same by civil action in assumpstion.

5. In the event the County, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the County for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the County.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by Stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the County and the Authorized County Personnel from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Authorized County Personnel.

8. The Authorized County Personnel shall inspect the BMPs at a minimum of once every three years to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Forest County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL) For the County:

_____

(SEAL) For the Landowner:

_____

ATTEST:

_____ (City, Borough, Township)

County of _____, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 200___.

_____ _____

NOTARY PUBLIC **(SEAL)**

RATIONAL FORMULA RUNOFF COEFFICIENTS

		HYDROLOGIC SOIL GROUP											
		A			B			C			D		
	STORM EVENT	SLOPE RANGE			SLOPE RANGE			SLOPE RANGE			SLOPE RANGE		
LAND USE	(yrs)	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
Cultivated Land	<25	0.08	0.13	0.16	0.11	0.15	0.21	0.14	0.19	0.26	0.18	0.23	0.31
	>25	0.14	0.18	0.22	0.16	0.21	0.28	0.20	0.25	0.34	0.24	0.29	0.41
Pasture	<25	0.12	0.20	0.30	0.18	0.28	0.37	0.24	0.34	0.44	0.30	0.40	0.50
	>25	0.15	0.25	0.37	0.23	0.34	0.45	0.30	0.42	0.52	0.37	0.50	0.62
Meadow	<25	0.10	0.16	0.25	0.14	0.22	0.30	0.20	0.28	0.36	0.24	0.30	0.40
	>25	0.14	0.22	0.30	0.20	0.28	0.37	0.26	0.35	0.44	0.30	0.40	0.50
Forest	<25	0.05	0.08	0.11	0.08	0.11	0.14	0.10	0.13	0.16	0.12	0.16	0.20
	>25	0.08	0.11	0.14	0.10	0.14	0.18	0.12	0.16	0.20	0.15	0.20	0.25
Residential													
Lot Size 1/8 acre	<25	0.25	0.28	0.31	0.27	0.30	0.35	0.30	0.33	0.38	0.33	0.36	0.42
	>25	0.33	0.37	0.40	0.35	0.39	0.44	0.38	0.42	0.49	0.41	0.45	0.54
Lot Size 1/4 acre	<25	0.22	0.26	0.29	0.24	0.29	0.33	0.27	0.31	0.36	0.30	0.34	0.40
	>25	0.30	0.34	0.37	0.33	0.37	0.42	0.36	0.40	0.47	0.38	0.42	0.52
Lot Size 1/3 acre	<25	0.19	0.23	0.26	0.22	0.26	0.30	0.25	0.29	0.34	0.28	0.32	0.39
	>25	0.28	0.32	0.35	0.30	0.35	0.39	0.33	0.38	0.45	0.36	0.40	0.50
Lot Size 2 acre	<25	0.16[a]	0.20	0.24	0.19	0.23	0.28	0.22	0.27	0.32	0.26	0.30	0.37
	>25	0.25[b]	0.29	0.32	0.28	0.32	0.36	0.31	0.35	0.42	0.34	0.38	0.48
Lot Size 1 acre	<25	0.14	0.19	0.22	0.17	0.21	0.26	0.20	0.25	0.31	0.24	0.29	0.35
	>25	0.22	0.26	0.29	0.24	0.28	0.34	0.28	0.32	0.40	0.31	0.35	0.46
Industrial	<25	0.67	0.68	0.68	0.68	0.68	0.69	0.68	0.69	0.69	0.69	0.69	0.70
	>25	0.85	0.85	0.86	0.85	0.86	0.86	0.86	0.86	0.87	0.86	0.86	0.88
Commercial	<25	0.71	0.71	0.72	0.71	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
	>25	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.89	0.90	0.89	0.89	0.90
Streets	<25	0.70	0.71	0.72	0.71	0.72	0.74	0.72	0.73	0.76	0.73	0.75	0.78
	>25	0.76	0.77	0.79	0.80	0.82	0.84	0.84	0.85	0.89	0.89	0.91	0.95
Open Space	<25	0.05	0.10	0.14	0.08	0.13	0.19	0.12	0.17	0.24	0.16	0.21	0.28
	>25	0.11	0.16	0.20	0.14	0.19	0.26	0.18	0.23	0.32	0.22	0.27	0.39
Parking	<25	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87
	>25	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97

(after *Rawls et al., 1981)*

APPENDIX E

Forest County Municipal Permit Application Directions

1. Fill in Township/Borough and Date; Permit No. is for Conservation District/Township use only.
2. County Parcel/Map no. (This may be found on your tax bill.) Ordinance No. is for Township use only.
3. Building Permit Fee is Township use, and Stormwater Permit Fee $25.00.
4. 911 Address – This blank must be filled in with the correct address. You may call 755-2995 if you are not sure of your 911 address.
5. Lot Size (Acreage) This blank must be filled in. Please put acreage only. Camp Name is optional.
6. Owners Name, Address, City, State, Zip, Phone No., Email or Cell No. These blanks must be filled in.
7. Applicants Name (Fill out if you are a contractor filing this permit for the owner.)
8. Description of Project. (New porch, new addition, etc.)
9. Estimated Cost and Other Structures on Property. (please fill out if known)
10. Type of: Framing, etc. Please fill out with the new construction information only.
11. Stormwater Management Section – THIS SECTION MUST BE FILLED IN OR THE PERMIT WILL NOT BE APPROVED. Please fill in the applicable lines for the new construction only. Do not fill in with any existing structure information.
12. A sketch must be attached showing the new construction and the distance to the property lines.
13. Additional Required Permits. Please check any additional permits that you are also applying for.
14. The permit must be signed and dated by the applicant.

    If you have any questions about filling out this permit, please call 814-755-3450.

For the Proposed Impervious Surface, the following chart provides the required Capture Volume as well as the required surface area of chosen BMP's. The proposed Impervious Surface should be rounded to the nearest 100 square feet.

Table E-2

Proposed Impervious Area (Square Feet)	**Required Capture Volume** (2" x Impervious Area) (Cubic Feet)	**Required Surface Area of Proposed BMP**	
		Sump or Trench[1] 2.5' Deep Aggregate (Square Feet)	**Rain Garden** 2.0' Amended Soils (Square Feet)
2,500	416.7	500	521
2,600	433.3	520	542
2,700	450.0	540	563
2,800	466.7	560	583
2,900	483.3	580	604
3,000	500.0	600	625
3,100	516.7	620	646
3,200	533.3	640	667
3,300	550.0	660	688
3,400	566.7	680	708
3,500	583.3	700	729
3,600	600.0	720	750
3,700	616.7	740	771
3,800	633.3	760	792
3,900	650.0	780	813
4,000	666.7	800	833
4,100	683.3	820	854
4,200	700.0	840	875
4,300	716.7	860	896
4,400	733.3	880	917
4,500	750.0	900	938
4,600	766.7	920	958
4,700	783.3	940	979
4,800	800.0	960	1,000
4,900	816.7	980	1,021
5,000	833.3	1,000	1,042

[1] 5:1 Maximum Loading Ratio Governs the Required Surface Area. This is necessary to prevent compaction of the underlying soils and thus reduce their infiltrative capacity over time (see current version of the PA DEP BMP Manual)

Forest County Municipal Permit - Instructions

The Stormwater Management Ordinance developed through the *Forest County Act 167 Stormwater Management Plan* regulates compliance requirements for Stormwater Management in this jurisdiction. A complete copy of the ordinance can be obtained by contacting the Forest County Planning Department. Regulated activities shall be conducted only after the County approves a stormwater management plan. The *Forest County Act 167 Stormwater Management Plan* will assist you in preparing the necessary information and plans for the Municipality to review and approve. This document will constitute an approved plan if all of the relevant components are installed in their entirety AND no part of the stormwater system adversely affects any other property, nor adversely affect any septic systems or drinking water wells on this, or any other, parcel. If an alternative system is to be used a plan will need to be submitted to the Municipality for approval. A design by a Qualified Professional may be required for sites that are more complex.

Construction details and materials for Stormwater BMPs can be found in the PADEP Stormwater Management BMP Manual (current version) at:

(http://www.depweb.state.pa.us/portal/server.pt/community/best_management_practices_manual/10631). All BMPs must be installed in their entirety AND the BMPs will be located as not to adversely affect other property, nor any septic systems or drinking water wells on this, or any other, parcel.

APPENDIX F

DISCONNECTED IMPERVIOUS AREAS (DIA)

F.1. Rooftop Disconnection

When rooftop downspouts are directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the rooftop may qualify as completely or partially DIA and a portion of the impervious rooftop area may be excluded from the calculation of total impervious area.

A rooftop is considered to be completely or partially disconnected if it meets the requirements listed below:

- The contributing area of rooftop to each disconnected discharge is 500 square feet or less, and
- The soil, in proximity of the roof water discharge area, is not designated as hydrologic soil group "D" or equivalent, and
- The overland flow path from roof water discharge area has a positive slope of 5% or less.

For designs that meet these requirements, the portion of the roof that may be considered disconnected depends on the length of the overland path as designated in Table F.1.

Table F.1 Partial Rooftop Disconnection

Pervious Flow path Length [1] (ft)	Roof Area Treated as Disconnected (% of Contributing Area)
0-14	0
15-29	20
30-44	40
45-59	60
60-74	80
75 +	100

1 – Flow path cannot include impervious surfaces and must be at least 15 feet from any impervious surface.

F.2. Pavement Disconnection

When pavement runoff is directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the contributing pavement area may qualify as a DIA that may be excluded from the calculation of total impervious area. This applies generally only to small or narrow pavement structures such as driveways and narrow pathways through otherwise pervious areas (e.g., a walkway or bike path through a park).

Pavement is disconnected if the pavement, or area adjacent to the pavement, meets the requirements below:

- The contributing flow path over impervious area is not more than 75 feet, and
- The length of overland flow is greater than or equal to the contributing length, and
- The soil is not designated as hydrologic soil group "D" or equivalent, and
- The slope of the contributing impervious area is 5% or less, and
- The slope of the overland flow path is 5% or less.

If the discharge is concentrated at one or more discrete points, no more than 1,000 square feet may discharge to any one point. In addition, a gravel strip or other spreading device is required for concentrated discharges. For non-concentrated discharges along the edge of the pavement, this requirement is waived; however, there must be a provision for the establishment of vegetation along the pavement edge and temporary stabilization of the area until vegetation becomes stabilized.